

ABSTRACT OF THE DISCLOSURE

A reaction tank (5) holds crushed cells comprising a pellicle of *Bacillus midousuji* cultured in the presence of a chlorinated aromatic compound such as dioxins and holds wastewater comprising a contaminated matter such as fly ash which comprises dioxins and which is produced by washing of a facility such as an incinerator. Air is supplied by a blower (6) to a matter held in the reaction tank (5). Accordingly, dioxins having three or more chlorine atoms in the contaminated matter can be decomposed, and the contaminated matter can be easily cleaned at a site where dioxins generate such as a washing or dismantling site of an incineration facility.